



Public health benefits of strategies to reduce greenhouse-gas emissions: Food and agriculture

Author(s): Friel S, Dangour AD, Garnett T, Lock K, Chalabi Z, Roberts I, Butler A, Butler CD, Waage J, McMichael AJ, Haines A
Year: 2009
Journal: The Lancet. 374 (9706): 2016-2025

Abstract:

Agricultural food production and agriculturally-related change in land use substantially contribute to greenhouse-gas emissions worldwide. Four-fifths of agricultural emissions arise from the livestock sector. Although livestock products are a source of some essential nutrients, they provide large amounts of saturated fat, which is a known risk factor for cardiovascular disease. We considered potential strategies for the agricultural sector to meet the target recommended by the UK Committee on Climate Change to reduce UK emissions from the concentrations recorded in 1990 by 80% by 2050, which would require a 50% reduction by 2030. With use of the UK as a case study, we identified that a combination of agricultural technological improvements and a 30% reduction in livestock production would be needed to meet this target; in the absence of good emissions data from Brazil, we assumed for illustrative purposes that the required reductions would be the same for our second case study in São Paulo city. We then used these data to model the potential benefits of reduced consumption of livestock products on the burden of ischaemic heart disease: disease burden would decrease by about 15% in the UK (equivalent to 2850 disability-adjusted life-years [DALYs] per million population in 1 year) and 16% in São Paulo city (equivalent to 2180 DALYs per million population in 1 year). Although likely to yield benefits to health, such a strategy will probably encounter cultural, political, and commercial resistance, and face technical challenges. Coordinated intersectoral action is needed across agricultural, nutritional, public health, and climate change communities worldwide to provide affordable, healthy, low-emission diets for all societies. © 2009 Elsevier Ltd. All rights reserved.

Source: [http://dx.doi.org/10.1016/s0140-6736\(09\)61753-0](http://dx.doi.org/10.1016/s0140-6736(09)61753-0)

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Climate Change and Human Health Literature Portal

Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Security

Food/Water Security: Agricultural Productivity, Livestock Productivity

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe, Central/South America

European Region/Country: European Country

Other European Country : United Kingdom

Health Co-Benefit/Co-Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Morbidity/Mortality

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

Model/Methodology:

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status

Resource Type:

Climate Change and Human Health Literature Portal

format or standard characteristic of resource

Review

Timescale: 

time period studied

Medium-Term (10-50 years)

Vulnerability/Impact Assessment: 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content